

## **TROPICAL RAINFALL MEASURING MISSION**

**September 14, 1998 - September 20, 1998**  
**DOY 257-263**

### **TRMM MISSION OPERATIONS**

- TRMM is flying in the +X Forward direction as of 98-240, at 07:07:09z.
- The next Yaw maneuver is scheduled for September 22 (265) at 15:13z.
- The next Delta-V maneuver is scheduled for September 22 (265) using the ISP thrusters at 16:27 and 17:13.
- All CERES operations are on hold until further notice.
- The Beta angle range for DOY 264 to 270 is +8.4° to -23.1°.

### **TRMM SUBSYSTEM OPERATIONS**

#### **Attitude Control System**

Delta-V maneuver #44 was successfully conducted on 98-261 at 16:23:13z and 17:08:43z, for durations of 47 and 19 seconds, respectively, using the LBS thrusters. The -Yaw thruster (#1) off-modulation was 7.71% (92.29% on time). The +Pitch thruster (#2) off-modulation was 21.28% and 18.42%, respectively (78.72% and 81.58% on time) for the two burns. The remaining fuel is 808.0 kg and the final apogee and perigee height is 354.74 km x 347.64 km.

The ESA experienced Moon and Sun interference in quadrants 1 and 3 during this week's period. The ACS performed nominally during the transition between 3 and 4 head control with only occasional reaction wheel limiting. Trending is being performed to determine whether VIRS science data is affected by the quadrant transitions.

#### **Flight Data System (FDS)/Command & Data Handling (C&DH)**

The Frequency Standard continues to drift in the negative direction. The frequency remains at x738f. The current drift rate is -1.67  $\mu$ s/hr.

The UTCF remains at 31535997.878666 sec. The current drift value is -439  $\mu$ s.

FOT dwell monitoring revealed that flywheel condition occurred on 98-259.

Q-Channel Restarts occurred on 98-260 at 09:13z and 98-263 at 00:17z and 05:02z.

EDAC Multi-bit errors were received on 98-258 at 20:35z and 98-260 at 16:40z.

New TSMs (35-37) were uplinked on 98-260 at 18:53z to monitor the CERES DAA +15V voltage converter. A new RTS #34 was uplinked on 98-260 at 18:49z. The RTS places CERES in Safe mode then powers it off in the event that the threshold for TSM 36 or 37 has been

triggered. TSMs 35-37 and RTS #34 are disabled at this time; they will be activated after CERES has been powered on.

### **Reaction Control Subsystem (RCS)**

The RCS subsystem performed nominally during this period. See the ACS section for Delta-V information.

### **Power Subsystem**

Battery-2 Cell-1 is still reaching maximums of 1.51 - 1.521 V. The power subsystem is being closely monitored.

### **Electrical Subsystem**

The Electrical subsystem operated nominally during this period.

### **Thermal Subsystem**

The Thermal subsystem operated nominally during this period.

### **Deployables Subsystem**

The Deployables subsystem performed nominally during this period.

### **RF/Communications Subsystem**

The RF/Communications subsystem has performed nominally during this time.

## **SPACECRAFT INSTRUMENTS**

### **CERES**

CERES remains powered off until CERES personnel develop a plan for operating the instrument with the +15 V DAA voltage anomaly.

The new TSMs (#35-37) and RTS (#34) were uplinked on 98-260. The TSMs will activate RTS #34 when the DAA voltage exceeds +16.3 V or drops below +13.5 V; the RTS SAFEs the instrument and powers it off. The TSMs and RTS will remain disabled until CERES has been powered on.

<b>Internal Calibrations</b>		<b>Solar Calibrations</b>	
<u>Date</u>	<u>Time</u>	<u>Date</u>	<u>Time</u>
N/A	N/A	N/A	N/A

### **LIS**

LIS performed nominally during this time period.

## **PR**

PR performed nominally during this time period.

## **TMI**

TMI performed nominally during this time period.

## **VIRS**

VIRS performed nominally during this time period.

One corrupt VIRS packet was received on 98-262 at 02:60z. VIRS warning messages continue to occur.

A VIRS Solar calibration was performed was performed on 98-263 at 05:54:06z.

The cold stage temperature was steady between 113.1° K and 114.7° K during this week.

## **GROUND SYSTEM**

Y2K implementation has started with Phase 1 this week. String 1 was removed from operations and tape backups of the system were completed. String 2 is now used as the primary realtime string and string 3 is used as the hot back-up.

On 98-259 data dropouts were experienced for approximately 2 minutes during a 1/4K event (Event #59).

On 98-259 an event on TDRS-171 was deleted due to a SGLT handover problem at WSC (Event #60).

An AGO event for IP testing was performed on 98-260 at 14:04z - 14:12z. The S/C was acquired at 14:08z and a no-op command successfully reached command ingest.

The FOT is currently preparing for the SN user 48-hour MDM/IP acceptance test, which will begin on 98-267 at 12:00z. There will also be a GN IP test with Canaberra on 98-267 at 17:58z to 18:04z.

## **EVENT REPORTS**

# 59 Data Dropouts during 1/4K event.

# 60 Loss of Event Due to TDRS-171 SGLT problem.

## **Late Acquisition Reports (for TTRs 19639)**

# 18 On 98-259: TDW/SA1; 1 minute 23 seconds.  
# 19 On 98-260: TDW/SA2; 1 minute 58 seconds.

**NEW ANOMALIES**

No new Anomaly Reports were written during this time.

**RECURRING ANOMALIES**

# 51 Pri S/C TC Mode on 98-259.  
# 55 Battery 2 Cell 1 Hitting YH limits.

Prepared by

Candace Shoemaker  
TRMM Systems Engineer

Approved by

Jeff Volosin  
TRMM FOT Manager